

WHAT IS CLAIMED IS:

1. A semiconductor package, comprising:
  - a substrate;
  - a semiconductor device supported by said
  - 5 substrate;
  - a environmental control materials carrier assembly supported by said substrate; and
  - a top cover supported by said substrate to enclose said semiconductor device and said environmental
  - 10 control materials carrier assembly.
2. The semiconductor package of Claim 1, said environmental control material carrier assembly secured to said substrate by means of an adhesive.
3. The semiconductor package of Claim 1, said
- 15 environmental control material carrier assembly further comprising:
  - a frame having at least two slots; and
  - environmental control material mounted in at least one of said slots.
- 20 4. The semiconductor package of Claim 3, said environmental control material carrier assembly frame having inside structural walls with openings to provide paths for gases and/or liquids inside said package to flow between said semiconductor chip
- 25 and said getter material.

5. The semiconductor package of Claim 3, said slots having mesh structures for holding said environmental control material.
6. The semiconductor package of Claim 3, said environmental control material carrier assembly fabricated in a lead-frame with break away tabs attaching each said carrier assembly to said lead-frame.
7. The semiconductor package of Claim 3, said environmental control material comprising moisture-collecting desiccants.
8. The semiconductor package of Claim 3, said environmental control material comprising adhesive outgassing desiccants.
9. The semiconductor package of Claim 3, said environmental control material comprising lubricant storage reservoirs.
10. The semiconductor package of Claim 3, said environmental control material comprised of a combination of:
- moisture collecting desiccants;
  - adhesive outgassing absorbing desiccants; and
  - lubricant storage reservoirs.

11. The semiconductor package of Claim 1, said semiconductor device comprising a spatial light modulator.
12. The semiconductor package of Claim 11, said spatial  
5 light modulator comprising a micromirror.
13. The semiconductor package of Claim 1, further comprising an aperture having a peripheral opaque light shield area and a center aperture area.
14. The semiconductor package of Claim 13, wherein said  
10 aperture is separate from said cover glass.
15. The semiconductor package of Claim 13, said aperture located to prevent light from reaching surfaces around a perimeter of semiconductor device.
16. The semiconductor package of Claim 1 wherein said  
15 cover is glass with an anti-reflective coating.
17. A micromirror projection display comprising:
  - a light source for producing a beam of light traveling along a light path;
  - a micromirror for selectively modulating said beam  
20 of light, said micromirror mounted on said light bath in a package with a transparent window and a carrier assembly holding at least one environmental control material; and
  - a projection lens focusing said selectively  
25 modulated beam of light onto an image plane.

18. The micromirror projection display of Claim 17, said  
environmental control material comprising at least  
one environmental control material selected from the  
group consisting of water absorbing desiccants,  
5 adhesive outgassing desiccants, and lubricant  
storage reservoirs.
19. The micromirror projection display of Claim 17, said  
environmental control material comprising a  
desiccant for collecting moisture in said  
10 micromirror package.
20. The micromirror projection display of Claim 17, said  
environmental control material comprising a  
desiccant for collecting outgassed matter in said  
micromirror package.
- 15 21. The micromirror projection display of Claim 17, said  
environmental control material comprising a  
lubricant reservoir providing lubricant to said  
micromirror.